

### ABSTRACT OF THE DISCLOSURE

A natural circulation circuit includes an evaporator surrounding a heat radiating portion of a Stirling refrigerating machine to absorb heat of the heat radiating portion through evaporation of a coolant, a condenser arranged to be higher than the evaporator to condense the coolant having gas phase, a conduit guiding the coolant from the evaporator to the condenser, and a return pipe returning the liquefied coolant from the condenser to the evaporator. In the evaporator a distance between an opening of the return pipe and an inner circumferential surface of the evaporator is smaller than that between an opening of the conduit and the inner circumferential surface.